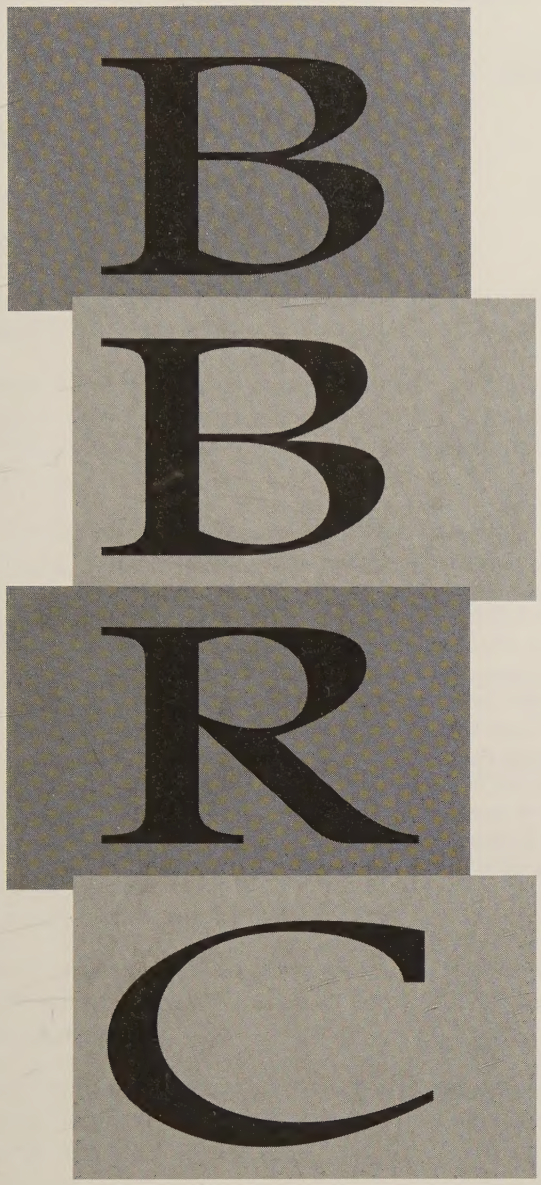

Biochemical and Biophysical Research Communications

EDITORS
Ernesto Carafoli
I. C. Gunsalus
Akira Ichihara
James D. Jamieson
Yasuo Kagawa
M. Daniel Lane
William J. Lennarz
Masami Muramatsu
Sten Orrenius
Jacques Pouyssegur
William S. Reznikoff

Volume 236, 1997

ACADEMIC PRESS

http://www.apnet.com

Copyright © 1997 by Academic Press

ALL RIGHTS RESERVED

No part of this publication may be reproduced or transmitted in any form, or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the Publisher.

The appearance of the code at the bottom of the first page of an article in this journal indicates the Publisher's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per copy fee through the Copyright Clearance Center, Inc. (222 Rosewood Drive, Danvers, Massachusetts 01923), for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Copy fees for pre-1997 articles are as shown on the article title pages; if no fee code appears on the title page, the copy fee is the same as for current articles.

0006-291X/97 $25.00

MADE IN THE UNITED STATES OF AMERICA

This journal is printed on acid-free paper.

CONTENTS OF VOLUME 236

Number 1, July 9, 1997

BREAKTHROUGHS AND VIEWS

The Shape of Cell Death	**Marcel Leist and Pierluigi Nicotera**	**1**

REGULAR ARTICLES

Purification, Cloning, and Expression of Human Plasma Hyaluronidase	**Gregory I. Frost, Tony B. Csóka, Tim Wong, and Robert Stern**	**10**
Limited Proteolysis of Human Kidney Angiotensin-Converting Enzyme and Generation of Catalytically Active N- and C-Terminal Domains	**Edward D. Sturrock, Sergei M. Danilov, and James F. Riordan**	**16**
Detection of Mouse Skeletal Muscle-Specific Product, Which Includes ZF5 Zinc Fingers and a VP16 Acidic Domain, by Reverse Transcriptase PCR	**Michitaka Numoto, Ken Yokoro, Shingo Yasuda, Kazuyoshi Yanagihara, and Ohtura Niwa**	**20**
Metabolism of Glycerol-1,2,3-trimethylsuccinate in Rat Pancreatic Islets	**W. J. Malaisse, G. Grue-Sørensen, and F. Björkling**	**26**
Chromatin Neutral Sphingomyelinase and Its Role in Hepatic Regeneration	**E. Albi and M. P. Viola Magni**	**29**
Perforin-Enhancing Protein, a Low Molecular Weight Protein of Cytotoxic Lymphocyte Granules, Enhances Perforin Lysis	**U. Winkler, S. A. Fraser, and D. Hudig**	**34**
The Proteasome Is an Essential Mediator of the Activation of Pre-MPF during Starfish Oocyte Maturation	**Michiko Takagi Sawada, Keiichiro Kyozuka, Chikako Morinaga, Kazuo Izumi, and Hitoshi Sawada**	**40**
The Complete Coding Sequence of Hepatitis C Virus Genotype 5a, the Predominant Genotype in South Africa	**R. W. Chamberlain, N. J. Adams, L. A. Taylor, P. Simmonds, and R. M. Elliott**	**44**
Sac1p of *Saccharomyces cerevisiae* Is Not Involved in ATP Release to the Extracellular Fluid	**Rodney Boyum and Guido Guidotti**	**50**
Increased MAPK Expression and Activity in Primary Human Hepatocellular Carcinoma	**C. Max Schmidt, Iain H. McKillop, Paul A. Cahill, and James V. Sitzmann**	**54**
The Amino-Terminal Region of Amyloid Precursor Protein Is Responsible for Neurite Outgrowth in Rat Neocortical Explant Culture	**Ikuroh Ohsawa, Chizuko Takamura, and Shinichi Kohsaka**	**59**
Identification of Heparin-Binding Sites in Midkine and Their Role in Neurite-Promotion	**Toshinobu Asai, Kiichi Watanabe, Keiko Ichihara-Tanaka, Norio Kaneda, Soichi Kojima, Akihisa Iguchi, Fuyuhiko Inagaki, and Takashi Muramatsu**	**66**
Increase in Ref-1 mRNA and Protein by Thyrotropin in Rat Thyroid FRTL-5 Cells	**Toshi Asai, Fukushi Kambe, Toyone Kikumori, and Hisao Seo**	**71**
A Novel Fungal Gene Encoding Chitin Synthase with a Myosin Motor-like Domain	**Makoto Fujiwara, Hiroyuki Horiuchi, Akinori Ohta, and Masamichi Takagi**	**75**

5 569HI XL 1883 11/97 31249-200 NULB

Activation of the $p21^{Waf1/Cip1}$ Promoter by the *ets* Oncogene Family Transcription Factor E1AF	**Kohsei Funaoka, Masanobu Shindoh, Koichi Yoshida, Motoaki Hanzawa, Kyoko Hida, Satoshi Nishikata, Yasunori Totsuka, and Kei Fujinaga**	**79**
A Splicing Variant of Steroid Receptor Coactivator-1 (SRC-1E): The Major Isoform of SRC-1 to Mediate Thyroid Hormone Action	**Yoshitaka Hayashi, Sachiko Ohmori, Takeshi Ito, and Hisao Seo**	**83**
How Important Is the *N*-3 Sugar Moiety in the Tight-Binding Interaction of Coformycin with Adenosine Deaminase?	**Ramachandra S. Hosmane and Mikyung Hong**	**88**
Partial Purification and Identification of Hormone-Sensitive Lipase from Chicken Adipose Tissue	**Marit W. Anthonsen, Eva Degerman, and Cecilia Holm**	**94**
The C-Terminal Domain of Tissue Inhibitor of Metalloproteinases-2 Is Required for Cell Binding but Not for Antimetalloproteinase Activity	**Ya-Chen Ko, Keith E. Langley, Elizabeth A. Mendiaz, Vann P. Parker, Shirley M. Taylor, and Yves A. DeClerck**	**100**
Cloning of a Human Heptahelical Receptor Closely Related to the $P2Y_5$ Receptor	**Rodolphe Janssens, Jean-Marie Boeynaems, Marielle Godart, and Didier Communi**	**106**
Localization of an Exchange Inhibitory Peptide (XIP) Binding Site on the Cardiac Sodium-Calcium Exchanger	**Calvin C. Hale, Scott Bliler, Thomas P. Quinn, and Elena N. Peletskaya**	**113**
Expression, Nuclear Localization and Interactions of Human MCM/P1 Proteins	**Hiromichi Tsuruga, Norikazu Yabuta, Katsuhito Hashizume, Masako Ikeda, Yuichi Endo, and Hiroshi Nojima**	**118**
A Cationic Lipid for Rapid and Efficient Delivery of Plasmid DNA into Mammalian Cells	**Guohong Zhang, Vanessa Gurtu, Thomas H. Smith, Paul Nelson, and Steven R. Kain**	**126**
Evidence for a Mammalian Nim1-like Kinase Pathway Acting at the G0-1/S Transition	**Véronique Baldin, Christophe Cans, Nobumoto Watanabe, and Bernard Ducommun**	**130**
Expression and Regulation of Transforming Growth Factor β1 mRNA and Protein in Rat Fetal Testis *in Vitro*	**Carole Gautier, Christine Levacher, José-Maria Saez, and René Habert**	**135**
Agonistic Effect of Tamoxifen Is Dependent on Cell Type, ERE-Promoter Context, and Estrogen Receptor Subtype: Functional Difference between Estrogen Receptors α and β	**Toru Watanabe, Satoshi Inoue, Sumito Ogawa, Yasunori Ishii, Hisahiko Hiroi, Kazuhiro Ikeda, Akira Orimo, and Masami Muramatsu**	**140**
Comparison of a Left-Handed Z-DNA Molecular Structure Determined by X-Rays with That Simulated by a Molecular Dynamics	**Hirofumi Ohishi, Isao Nakanishi, and Ken-ichi Tomita**	**146**
Down-Regulation of the Defective Transcripts of the Werner's Syndrome Gene in the Cells of Patients	**Yukako Yamabe, Masanobu Sugimoto, Misako Satoh, Noriyuki Suzuki, Minoru Sugawara, Makoto Goto, and Yasuhiro Furuichi**	**151**
Caveolin-1 Detergent Solubility and Association with Endothelial Nitric Oxide Synthase Is Modulated by Tyrosine Phosphorylation	**Virginia J. Venema, Rong Zou, Hong Ju, Mario B. Marrero, and Richard C. Venema**	**155**

Insulin Secretagogues with an Imidazoline Structure Inhibit Arginine-Induced Glucagon Secretion from Isolated Rat Islets of Langerhans	**Mirna Mourtada, Stephen A. Smith, and Noel G. Morgan**	**162**
Cultivation, Serial Transfer, and Differentiation of Epidermal Keratinocytes in Serum-Free Medium	**Federico Castro-Muñozledo, Miriam Hernández-Quintero, Meytha Marsch-Moreno, and Walid Kuri-Harcuch**	**167**
Qualitative and Quantitative Catalog of Tyrosinase Alternative Transcripts in Normal Murine Skin Melanocytes as a Basis for Detecting Melanoma-Specific Changes	**Stephen R. Kelsall, Nathalie Le Fur, and Beatrice Mintz**	**173**
cDNA Cloning of a Novel Amphiphysin Isoform and Tissue-Specific Expression of Its Multiple Splice Variants	**Ken Tsutsui, Yukihide Maeda, Kimiko Tsutsui, Shuji Seki, and Akira Tokunaga**	**178**
Evidence That Synaptobrevin Is Involved in Fusion between Synaptic Vesicles and Synaptic Plasma Membrane Vesicles	**Maria T. Almeida, João Ramalho-Santos, Catarina R. Oliveira, and Maria C. Pedroso de Lima**	**184**
Increased Expression of Caveolin-1 in Heterozygous Niemann-Pick Type II Human Fibroblasts	**William S. Garver, Ssu-Cheng J. Hsu, Robert P. Erickson, Wenda L. Greer, David M. Byers, and Randall A. Heidenreich**	**189**
Interleukin-1β-Converting Enzyme and CPP32 Are Involved in Ultraviolet B-Induced Apoptosis of SV40-Transformed Human Keratinocytes	**Hidetoshi Takahashi, Motoshi Kinouchi, and Hajime Iizuka**	**194**
Extracellular Signal-Regulated Kinase and c-Jun NH_2-Terminal Kinase Activities Are Continuously and Differentially Increased in Aorta of Hypertensive Rats	**Shokei Kim, Tomohisa Murakami, Yasukatsu Izumi, Masahiko Yano, Katsuyuki Miura, Shinya Yamanaka, and Hiroshi Iwao**	**199**
Factors Altering Ribozyme-Mediated Cleavage of Tumor Necrosis Factor-α mRNA *in Vitro*	**Kevin O. Kisich, Stephen J. Freedland, and Kent L. Erickson**	**205**
STRL22 Is a Receptor for the CC Chemokine MIP-3α	**Fang Liao, Ralph Alderson, Jeffrey Su, Stephen J. Ullrich, Brent L. Kreider, and Joshua M. Farber**	**212**
A Close Association of GM3 with c-Src and Rho in GM3-Enriched Microdomains at the B16 Melanoma Cell Surface Membrane: A Preliminary Note	**Soichiro Yamamura, Kazuko Handa, and Sen-itiroh Hakomori**	**218**

ERRATUM

Volume 232, Number 3 (1997): Lele Jiang, Fiona M. Foster, Peter Ward, Vitomir Tasevski, Brian M. Luttrell, and Arthur D. Conigrave, "Extracellular ATP Triggers Cyclic AMP-Dependent Differentiation of HL-60 Cells," pp. 626–630 **223**

ANNOUNCEMENT **229**

Number 2, July 18, 1997

BREAKTHROUGHS AND VIEWS

Towards a Molecular Definition of Keratinocyte Activation after Acute Injury to Stratified Epithelia	**Pierre A. Coulombe**	**231**

REGULAR ARTICLES

Differential Involvement of Synaptic Vesicle and Presynaptic Plasma Membrane Proteins in Alzheimer's Disease	**Shun Shimohama, Shinji Kamiya, Takashi Taniguchi, Kimiaki Akagawa, and Jun Kimura**	**239**
Phosphorylation-Sensitive Secondary Structure in a Synthetic Peptide Corresponding to the Activation Loop of MAP Kinase	**Alexander A. Tokmakov, Ken-Ichi Sato, and Yasuo Fukami**	**243**
Frequent Somatic Mutations of *hMSH3* with Reference to Microsatellite Instability in Hereditary Nonpolyposis Colorectal Cancers	**Yoshimitsu Akiyama, Naomi Tsubouchi, and Yasuhito Yuasa**	**248**
Does the Epsilon Sequence of Phage T7 Function as an Initiator for the Translation of CAT mRNA in *Escherichia coli*?	**A. Golshani, V. Golomehova, R. Mironova, I. G. Ivanov, and M. G. AbouHaidar**	**253**
Correlation between Direct Binding Ability of Synthetic *T. gondii* SAG1 Peptides to HLA-A2 Measured by a Sensor for Surface Plasmon Resonance and Antigenicity of the Peptides for *T. gondii*-Infected Cell-Specific CTL	**Akihiko Yano, Fumie Aosai, Tian-Hui Yang, Na He, Hye-Seong Mun, Hui Liu, Hidetoshi Inoko, and Kazumi Norose**	**257**
Cerebrospinal Fluid Tau Levels in Neurodegenerative Diseases with Distinct Tau-Related Pathology	**Hiroyuki Arai, Yu-ichi Morikawa, Makoto Higuchi, Toshifumi Matsui, Christopher M. Clark, Masakazu Miura, Nobuo Machida, Virginia M.-Y. Lee, John Q. Trojanowski, and Hidetada Sasaki**	**262**
Role of $(ADP\text{-}ribose)_n$ Catabolism in DNA Repair	**Hideharu Maruta, Nobuko Matsumura, and Sei-ichi Tanuma**	**265**
Role of the Heterotrimeric G Proteins in Stromal-Derived Factor-1α-Induced Natural Killer Cell Chemotaxis and Calcium Mobilization	**Azzam A. Maghazachi**	**270**
Role of Gastric Mucosal Constitutive and Inducible Nitric Oxide Synthases in the Development of Stress-Induced Gastric Mucosal Lesions in Rats	**Keiji Nishida, Yoshiji Ohta, and Isao Ishiguro**	**275**
Lack of Induction of Tissue Transglutaminase But Activation of the Preexisting Enzyme in c-Myc-Induced Apoptosis of CHO Cells	**Zoltán Balajthy, Noémi Kedei, László Nagy, Peter J. A. Davies, and László Fésüs**	**280**
Regulation of Early Endosome Fusion by Phospholipase D Activity	**Arwyn T. Jones and Michael J. Clague**	**285**
Cigarette Smoke Extract Inhibits Plasma Paraoxonase Activity by Modification of the Enzyme's Free Thiols	**Eisuke Nishio and Yasuhiro Watanabe**	**289**

Molecular Characterization of the Novel Basic Helix–Loop–Helix Protein DEC1 Expressed in Differentiated Human Embryo Chondrocytes	**Ming Shen, Takeshi Kawamoto, Weiqun Yan, Kazuko Nakamasu, Mami Tamagami, Yasuhiko Koyano, Mitsuhide Noshiro, and Yukio Kato**	**294**
Eotaxin Expression and Eosinophilic Inflammation in Asthma	**Sabrina Mattoli, Martin A. Stacey, Guo Sun, Alberto Bellini, and Maurizio Marini**	**299**
CYP4T1—A Cytochrome P450 Expressed in Rainbow Trout (*Oncorhynchus mykiss*) Liver	**Patrick H. J. Falckh, Quoc K Wu, and Jorma P. Ahokas**	**302**
Isolation of a Cytochrome P450 3A cDNA Sequence (CYP3A30) from the Marine Teleost *Fundulus heteroclitus* and Phylogenetic Analyses of *CYP3A* Genes	**Malin Celander and John J. Stegeman**	**306**
An Nrf2/Small Maf Heterodimer Mediates the Induction of Phase II Detoxifying Enzyme Genes through Antioxidant Response Elements	**Ken Itoh, Tomoki Chiba, Satoru Takahashi, Tetsuro Ishii, Kazuhiko Igarashi, Yasutake Katoh, Tatsuya Oyake, Norio Hayashi, Kimihiko Satoh, Ichiro Hatayama, Masayuki Yamamoto, and Yo-ichi Nabeshima**	**313**
Synthesis, Uptake, and Intracellular Metabolism of a Hydrophobic Tetrapeptide-Peptide Nucleic Acid (PNA)–Biotin Molecule	**Sonia Scarfí, Anna Gasparini, Gianluca Damonte, and Umberto Benatti**	**323**
Immunohistochemical Localization of Advanced Glycation End Products, Pentosidine, and Carboxymethyllysine in Lipofuscin Pigments of Alzheimer's Disease and Aged Neurons	**Katsunori Horie, Toshio Miyata, Takeshi Yasuda, Akinori Takeda, Yoshinari Yasuda, Kenji Maeda, Gen Sobue, and Kiyoshi Kurokawa**	**327**
Characterization of the Pleckstrin Homology Domain of Btk as an Inositol Polyphosphate and Phosphoinositide Binding Domain	**Toshio Kojima, Mitsunori Fukuda, Yutaka Watanabe, Fumiaki Hamazato, and Katsuhiko Mikoshiba**	**333**
Apamin-Sensitive Ca^{2+}-Dependent K^+ Current and Hyperpolarization in Human Endothelial Cells	**K. Muraki, Y. Imaizumi, S. Ohya, K. Sato, T. Takii, K. Onozaki, and M. Watanabe**	**340**
A Colorimetric Inhibition Study of Single-Stranded DNA Decamer Sequence Interactions with Dinitrotoluene	**John G. Bruno**	**344**
Long-Term, Stable Expression of Green Fluorescent Protein in Mammalian Cells	**Alexander N. Gubin, Bindu Reddy, Joyce M. Njoroge, and Jeffery L. Miller**	**347**
Quantification of the cAMP Response Element Binding Protein in Ventricular Nuclear Protein from Failing and Nonfailing Human Hearts	**Frank Ulrich Müller, Peter Bokník, Jörg Knapp, Hartmut Lüss, Joachim Neumann, Ute Vahlensieck, Michael Böhm, Mario C. Deng, Hans H. Scheld, and Wilhelm Schmitz**	**351**
Effects of Metal Ions on the Binding Activity of the Human Leukocyte Leukotriene B_4 Receptor	**Carol F. Ng, Jesper Z. Haeggström, and Bengt Samuelsson**	**355**
The Amino Terminal Deletion Mutants of Hepatitis C Virus Nonstructural Protein NS5A Function as Transcriptional Activators in Yeast	**Akihide Tanimoto, Yoshihiro Ide, Nobuyuki Arima, Yasuyuki Sasaguri, and R. Padmanabhan**	**360**

Nitric Oxide Inhibits CPP32-like Activity under Redox Regulation	**Tsutomu Ogura, Masayuki Tatemichi, and Hiroyasu Esumi**	**365**
Detection and Characterization of α-Crystallin Intermediate with Maximal Chaperone-like Activity	**Biplab K. Das and Jack J-N Liang**	**370**
Effects of apo E Deficiency on Plasma Lipid Levels in Mice Lacking APOBEC-1	**Jun-ichi Osuga, Hiroaki Yagyu, Ken Ohashi, Kenji Harada, Yoshio Yazaki, Nabuhiro Yamada, and Shun Ishibashi**	**375**
Role of Metabolic Intermediates in Lipopolysaccharide/Cytokine-Mediated Production of Nitric Oxide in Isolated Mouse Hepatocytes	**Jun F. Liang and Toshihiro Akaike**	**379**
Cloning, Sequencing, and Characterization of the *ftsZ* Gene from Coryneform Bacteria	**Miki Kobayashi, Yoko Asai, Kazuhisa Hatakeyama, Nobuyuki Kijima, Masaaki Wachi, Kazuo Nagai, and Hideaki Yukawa**	**383**
Cloning, Mapping, and Tissue Distribution of a Human Homologue of the Mouse Jerky Gene Product	**Zhizhen Zeng, Hla Kyaw, Karen R. Gakenheimer, Meena Augustus, Ping Fan, Xiaochun Zhang, Kui Su, Kenneth C. Carter, and Yi Li**	**389**
Growth Inhibition and Induction of Apoptosis by HGF in Transformed Rat Liver Epithelial Cells	**Elizabeth A. Conner, Peter J. Wirth, Andras Kiss, Eric Santoni-Rugiu, and Snorri S. Thorgeirsson**	**396**
Biotin Synthase, a New Member of the Family of Enzymes Which Uses S-Adenosylmethionine as a Source of Deoxyadenosyl Radical	**Dominique Guianvarc'h, Dominique Florentin, Bernadette Tse Sum Bui, Frederic Nunzi, and Andrée Marquet**	**402**
Degenerative Changes in Spermatogonia Are Associated with Loss of Glucose Transporter (Glut 3) in Abdominal Testis of Surgically Induced Unilateral Cryptorchidism in Rats	**Shakeel M. Farooqui, Fakhri Al-Bagdadi, James M. O'Donnell, and Rett Stout**	**407**
Nonenzymatic Lactosylation of Bovine β-Lactoglobulin under Mild Heat Treatment Leads to Structural Heterogeneity of the Glycoforms	**François Morgan, Joëlle Léonil, Daniel Mollé, and Saïd Bouhallab**	**413**
DIF-1, Putative Morphogen of *D. discoideum*, Suppresses Cell Growth and Promotes Retinoic Acid-Induced Cell Differentiation in HL-60	**Yuzuru Kubohara**	**418**
Anti-Ca^{2+}, Mg^{2+}-Dependent Endonuclease Antibody Detects Specifically a Class of Chromatin-Bound Endonuclease	**Koichiro Yoshihara, Katsuya Ota, Takeshi Ide, Yasuharu Tanaka, Masanori Kameoka, and Samuel S. Koide**	**423**
The Genomic Organization of the Genes for Human Lipopolysaccharide Binding Protein (LBP) and Bactericidal Permeability Increasing Protein (BPI) Is Highly Conserved	**Jaroslav A. Hubacek, Christa Büchler, Charalampos Aslanidis, and Gerd Schmitz**	**427**
Role of CYP1A2 in Hepatic Sequestration of Dioxin: Studies Using CYP1A2 Knock-Out Mice	**Janet J. Diliberto, Deborah Burgin, and Linda S. Birnbaum**	**431**

The Role of Cytochrome b_5 in 4α-Methyl-Oxidation and C5(6) Desaturation of Plant Sterol Precursors	**Alain Rahier, Mark Smith, and Maryse Taton**	434
Members of the Family of IL-6-type Cytokines Activate Stat5a in Various Cell Types	**Roland P. Piekorz, Cordula Nemetz, and Gertrud M. Hocke**	438
The α2L111R,N122D Isoform of the Na,K-ATPase Expressed in HeLa Cells Does Not Undergo an Adipocyte-like Increase in Activity in Response to Insulin	**Maddalena V. Coppi and Guido Guidotti**	444
Nucleotide Binding to Autotaxin: Crosslinking of Bound Substrate Followed by lysC Digestion Identifies Two Labeled Peptides	**Timothy Clair, Henry C. Krutzsch, Lance A. Liotta, and Mary L. Stracke**	449
The 6H1 Orphan Receptor, Claimed to Be the p2y5 Receptor, Does Not Mediate Nucleotide-Promoted Second Messenger Responses	**Qing Li, Joel B. Schachter, T. Kendall Harden, and Robert A. Nicholas**	455
Sequence and Analysis of a *dnaJ* Homologue Gene in Cyanobacterium *Synechococcus* sp. PCC7942	**Keiko Oguchi, Kaori Nimura, Hirofumi Yoshikawa, and Hideo Takahashi**	461
Evidence for the Formation of F_3-Isoprostanes during Peroxidation of Eicosapentaenoic Acid	**Jaffar Nourooz-Zadeh, Barry Halliwell, and Erik. E. Änggård**	467
Human Islets of Langerhans Express Multiple Isoforms of Calcium/Calmodulin-Dependent Protein Kinase II	**Maria A. Breen and Stephen J. H. Ashcroft**	473
Signaling Mechanisms of Pertussis Toxin-Induced Myelomonocytic Cell Adhesion: Role of Tyrosine Phosphorylation	**W. S. Fred Wong and John M. Luk**	479
Overexpression of a 40-kDa Protein in Human Multidrug Resistant Cells	**Ying Wang, Xing-Qing Pan, Francoise Lheureux, and Elias Georges**	483
Glutamine^{235} and Arginine^{272} in Human Melanocortin 5 Receptor Determines Its Low Affinity to MSH	**Per-Anders Frändberg, Xiaolin Xu, and Vijay Chhajlani**	489
Antibody-Based Therapy Targeting Tumor Vascular Endothelial Cells Suppresses Solid Tumor Growth in Rats	**Iwao Ohizumi, Shin-ichi Tsunoda, Kenji Taniguchi, Hiroyuki Saito, Keiko Esaki, Hiroo Makimoto, Yukiko Wakai, Yasuo Tsutsumi, Shinsaku Nakagawa, Naoki Utoguchi, Shin-ichi Kaiho, Yoshiyuki Ohsugi, and Tadanori Mayumi**	493
Monoclonal Antibodies against Pupa-Specific Surface Antigens of *Sarcophaga peregrina* (Fresh Fly) Hemocytes	**Shohei Hori, Ayako Kobayashi, and Shunji Natori**	497
Frzb-1, an Antagonist of Wnt-1 and Wnt-8, Does Not Block Signaling by Wnts -3A, -5A, or -11	**Shouwen Wang, Marie Krinks, and Malcolm Moos, Jr.**	502
Cellular Response to the Redox Active Lipid Peroxidation Products: Induction of Glutathione S-Transferase P by 4-Hydroxy-2-nonenal	**Aya Fukuda, Yoshimasa Nakamura, Hajime Ohigashi, Toshihiko Osawa, and Koji Uchida**	505

The Eukaryotic Translation Initiation Factor 5, elF-5, a Protein from *Zea mays*, Containing a Zinc-Finger Structure, Binds Nucleic Acids in a Zinc-Dependent Manner — **Ignacio López Ribera, Luis Ruiz-Avila, and Pere Puigdomènech** — 510

Inhibition of Fas-Induced Apoptotic Cell Death by Osmotic Cell Shrinkage — **E. Gulbins, J. Welsch, A. Lepple-Wienhuis, H. Heinle, and F. Lang** — 517

The Allergen Der p1 Induces NF-kB Activation through Interference with IkBα Function in Asthmatic Bronchial Epithelial Cells — **Martin A. Stacey, Guo Sun, Giovanni Vassalli, Maurizio Marini, Alberto Bellini, and Sabrina Mattoli** — 522

Cloning of a cDNA Encoding a Constitutively Expressed Rat Liver Cytosolic Aldehyde Dehydrogenase — **Eva C. Kathmann and James J. Lipsky** — 527

Helicobacter Pylori Lipopolysaccharide Inhibits Acid Secretion in Pylorus-Ligated Conscious Rats — **Chikara Ootsubo, Toshikatsu Okumura, Nobuhiko Takahashi, Hirokazu Wakebe, Kenichi Imagawa, Mikio Kikuchi, and Yutaka Kohgo** — 532

ERRATUM

Volume 234, Number 2 (1997): Tetsuya Ishikawa, Yoko Nakada-Moriya, Chiyo Ando, Nobuya Tanda, Seikoh Nishida, Yosuke Minatogawa, and Tsutomu Nohno, "Expression of the JNK2-α1 Gene in the Developing Chick Brain," pp. 489–492 — 538

ANNOUNCEMENT — 539

Number 3, July 30, 1997

BREAKTHROUGHS AND VIEWS

Gene Regulation by Nuclear and Cytoplasmic Calcium Signals — **Hilmar Bading, Giles E. Hardingham, Claire M. Johnson, and Sangeeta Chawla** — 541

REGULAR ARTICLES

Autosomal Recessive Liver Phosphorylase Kinase Deficiency Caused by a Novel Splice-Site Mutation in the Gene Encoding the Liver Gamma Subunit *(PHKG2)* — **Ellen A. C. M. van Beurden, Michelle de Graaff, Udo Wendel, Richard Gitzelmann, Ruud Berger, and Inge E. T. van den Berg** — 544

Characterization of Voltage-Dependent Calcium Influx in Human Erythrocytes by fura-2 — **Laura Soldati, Renato Spaventa, Giuseppe Vezzoli, Simona Zerbi, Donatella Adamo, Andrea Caumo, Rodolfo Rivera, and Giuseppe Bianchi** — 549

Evidence for Participation of a Calpain-like Cysteine Protease in Cell Cycle Progression through Late G_1 Phase — **Ronald L. Mellgren** — 555

Molecular Cloning and Characterization of Mammalian Homologues of the *Drosophila retinal degeneration B* Gene — **Yoshikatsu Aikawa, Hideo Hara, and Takeshi Watanabe** — 559

Sterol Carrier Protein X (SCPx) Is a Peroxisomal Branched-Chain β-Ketothiolase Specifically Reacting with 3-Oxo-pristanoyl-CoA: A New, Unique Role for SCPx in Branched-Chain Fatty Acid Metabolism in Peroxisomes — **R. J. A. Wanders, S. Denis, F. Wouters, K. W. A. Wirtz, and U. Seedorf** — 565

Evidence for Myosin-Binding Phosphatase in Heart Myofibrils	**Hajime Nishio, Kazuhito Ichikawa, and David J. Hartshorne**	**570**
DNA Binding Properties of the *hfq* Gene Product of *Escherichia coli*	**Ayako Takada, Masaaki Wachi, Akihiro Kaidow, Makoto Takamura, and Kazuo Nagai**	**576**
B Cell Granule Peptides Affect Human Islet Amyloid Polypeptide (IAPP) Fibril Formation *in Vitro*	**Sabina Janciauskiene, Sten Eriksson, Eric Carlemalm, and Bo Ahrén**	**580**
Reversal of Heavy Metal Resistance in Multidrug-Resistant Human KB Carcinoma Cells	**Zhe-Sheng Chen, Masato Mutoh, Tomoyuki Sumizawa, Tatsuhiko Furukawa, Misako Haraguchi, Ayako Tani, and Shin-ichi Akiyama**	**586**
Peroxynitrite Scavenging by Flavonoids	**Guido R. M. M. Haenen, Jos B. G. Paquay, Ronald E. M. Korthouwer, and Aalt Bast**	**591**
Staurosporine Induces Telophase Arrest and Apoptosis Blocking Mitosis Exit in Human Chang Liver Cells	**Myint Swe and K. H. Sit**	**594**
MAP Kinase Activation by Cyclosporine A	**Liliana Paslaru, Sylviane Trigon, Martin Kuhlmann, and Michel Morange**	**599**
Interaction of Human Angiogenin with Copper Modulates Angiogenin Binding to Endothelial Cells	**Fabrice Soncin, Jean-Dominique Guitton, Terence Cartwright, and Josette Badet**	**604**
Analysis of Expressed Sequence Tags (ESTs) of the Parasitic Protozoa *Entamoeba histolytica*	**Tomoo Tanaka, Manami Tanaka, and Youji Mitsui**	**611**
Proximal 5′-Flanking Sequence of the Human γ-Glutamylcysteine Synthetase Heavy Subunit Gene Is Involved in Cisplatin-Induced Transcriptional Up-regulation in a Lung Cancer Cell Line SBC-3	**Akira Tomonari, Kazuto Nishio, Hirokazu Kurokawa, Hisao Fukumoto, Kazuya Fukuoka, Yasuo Iwamoto, Jitsuo Usuda, Toshihiro Suzuki, Mitsuo Itakura, and Nagahiro Saijo**	**616**
The Angiotensin-II Receptor Antagonist, Losartan, Inhibits LDL Lipid Peroxidation and Atherosclerosis in Apolipoprotein E-Deficient Mice	**Shlomo Keidar, Judith Attias, Jonathan Smith, Jan L. Breslow, and Tony Hayek**	**622**
Modulation of Protein Kinase C and cAMP-Dependent Protein Kinase by δ-Opioid	**Li-Guang Lou and Gang Pei**	**626**
Molecular Structure of the Mouse CCK-A Receptor Gene	**Karen A. Lacourse, Jean M. Lay, Lisa J. Swanberg, Casey Jenkins, and Linda C. Samuelson**	**630**
Inhibition of DNA Unwinding and ATPase Activities of Human DNA Helicase II by Chemotherapeutic Agents	**Narendra Tuteja, Tuan-Nghia Phan, Renu Tuteja, Alexander Ochem, and Arturo Falaschi**	**636**
Identification of Two Homologous Cytochrome b_5s in Rat Brain	**Min Yoo**	**641**
The Consequences of a Mild Respiratory Chain Deficiency on Substrate Competitive Oxidation in Human Mitochondria	**Vanna Geromel, Béatrice Parfait, Jürgen-Christoph von Kleist-Retzow, Dominique Chretien, Arnold Munnich, Agnès Rötig, and Pierre Rustin**	**643**

Treadmill Running Increases Phosphatidylinostol 3-Kinase Activity in Rat Skeletal Muscle	**Qian Zhou and G. Lynis Dohm**	**647**
Suppression of Tumor Growth with Recombinant Murine Angiostatin	**Zhanggui Wu, Michael S. O'Reilly, Judah Folkman, and Yuen Shing**	**651**
Upstream NF-κB Site Is Required for the Maximal Expression of Mouse Inducible Nitric Oxide Synthase Gene in Interferon-γ plus Lipopolysaccharide-Induced RAW 264.7 Macrophages	**Yong-Man Kim, Bok-Soo Lee, Kun-Yeong Yi, and Sang-Gi Paik**	**655**
Three Unrelated Perturbations Similarly Uncouple Fluid, Bulk-Membrane, and Receptor Endosomal Flow in Rat Fetal Fibroblasts	**Philippe Cupers, Alex Veithen, Dick Hoekstra, Pierre Baudhuin, and Pierre J. Courtoy**	**661**
Modulation of Insulin Secretion and Glycemia by Selective Inhibition of Cyclic AMP Phosphodiesterase III	**Janice C. Parker, Maria A. VanVolkenburg, Nancy A. Nardone, Diane M. Hargrove, and Kim M. Andrews**	**665**
Structural Motif and Characteristics of the Extracellular Domain of P_{2X} Receptors	**Mitchell A. Hansen, Julian A. Barden, Vladimir J. Balcar, Kevin A. Keay, and Maxwell R. Bennett**	**670**
Isolation of 1-Methyl-1,2,3,4-Tetrahydroisoquinoline-Synthesizing Enzyme from Rat Brain: A Possible Parkinson's Disease-Preventing Enzyme	**Takahiro Yamakawa and Shigeru Ohta**	**676**
Characterization of Posttranslational Modifications of Human A33 Antigen, a Novel Palmitoylated Surface Glycoprotein of Human Gastrointestinal Epithelium	**Gerd Ritter, Leonard S. Cohen, Edouard C. Nice, Bruno Catimel, Antony W. Burgess, Robert L. Moritz, Hong Ji, Joan K. Heath, Sara J. White, Sydney Welt, Lloyd J. Old, and Richard J. Simpson**	**682**
Tyrosine Phosphorylation of Insulin Receptor Substrate-1 and Activation of the PI-3-Kinase Pathway by Glycine-Extended Gastrin Precursors	**Aline Kowalski-Chauvel, Lucien Pradayrol, Nicole Vaysse, and Catherine Seva**	**687**
Expression of the POU Transcription Factor Brn-5 Inhibits Proliferation of NG108-15 Cells	**Hong Cui and Robert F. Bulleit**	**693**
Up-regulation of Syk Activity during HL60 Cell Differentiation into Granulocyte but Not into Monocyte/Macrophage-Lineage	**Suofu Qin and Hirohei Yamamura**	**697**
Phosphorylation of Calmodulin by Myosin Light Chain Kinase Is Altered by Exchange or Duplication of EF-Hand Pairs	**Harold W. Davis**	**702**
Endothelial Nitric Oxide Synthase Gene Transfer Inhibits Platelet-Derived Growth Factor-BB Stimulated Focal Adhesion Kinase and Paxillin Phosphorylation in Vascular Smooth Muscle Cells	**Shengyun Fang, Ram V. Sharma, and Ramesh C. Bhalla**	**706**

Advanced Glycation End Products Induce Expression of Vascular Endothelial Growth Factor by Retinal Müller Cells	**Chizuko Hirata, Koji Nakano, Naoto Nakamura, Yoshihiro Kitagawa, Hirofumi Shigeta, Goji Hasegawa, Masakazu Ogata, Tsunehiko Ikeda, Hiroshi Sawa, Ko Nakamura, Kazuharu Ienaga, Hiroshi Obayashi, and Motoharu Kondo**	**712**
Molecular Cloning and Expression of 56-58 KD Antigen Associated with Transplant Coronary Artery Disease	**Art Ationu and Alan Collins**	**716**
Differential Expression of Rab3 Isoforms during Differentiation of Pancreatic Acinar Cell Line AR42J	**Rolf Klengel, Albrecht Piiper, Simone Pittelkow, and Stefan Zeuzem**	**719**
Natural Occurrence of 2′-Phospho–Cyclic ADP Ribose in Mammalian Tissues	**Chinh Q. Vu, Donna L. Coyle, and Myron K. Jacobson**	**723**
Purification and Molecular Cloning of the Group II Chaperonin from the Acidothermophilic Archaeon, *Sulfolobus* Sp. Strain 7	**Norihiro Nakamura, Hideki Taguchi, Noriyuki Ishii, Masasuke Yoshida, Makoto Suzuki, Isao Endo, Kin-ichiro Miura, and Masafumi Yohda**	**727**
Abnormalities of Sensory and Memory Functions in Mice Lacking *Bsg* Gene	**Kazumasa Naruhashi, Kenji Kadomatsu, Tadahiko Igakura, Qi-Wen Fan, Naohiko Kuno, Hisako Muramatsu, Teruo Miyauchi, Takaaki Hasegawa, Akio Itoh, Takashi Muramatsu, and Toshitaka Nabeshima**	**733**
Selective Loading of Rhod 2 into Mitochondria Shows Mitochondrial Ca^{2+} Transients during the Contractile Cycle in Adult Rabbit Cardiac Myocytes	**Donna R. Trollinger, Wayne E. Cascio, and John J. Lemasters**	**738**
Isolation of Three Novel Neuropeptides, the Cyanea-RFamides I–III, from Scyphomedusae	**Angelika Moosler, Kenneth L. Rinehart, and Cornelis J. P. Grimmelikhuijzen**	**743**
Avian Adenovirus Induces Ion Channels in Model Bilayer Lipid Membranes	**Andrey A. Rosenkranz, Yuri N. Antonenko, Olga A. Smirnova, Gleb K. Yurov, Boris S. Naroditsky, and Alexander S. Sobolev**	**750**
The Membrane Anchor of Microsomal Epoxide Hydrolase from Human, Rat, and Rabbit Displays an Unexpected Membrane Topology	**Romy Holler, Michael Arand, Astrid Meckey, Franz Oesch, and Thomas Friedberg**	**754**
Effects of Two Hypertrophic Cardiomyopathy Mutations in α-Tropomyosin, Asp175Asn and Glu180Gly, on Ca^{2+} Regulation of Thin Filament Motility	**Wu Bing, Charles S. Redwood, Ian F. Purcell, Giovanna Esposito, Hugh Watkins, and Steven B. Marston**	**760**
Multiple Regulatory Elements and Binding Proteins of the 5′-Flanking Region of the Human Estrogen-Responsive Finger Protein (efp) Gene	**Kazuhiro Ikeda, Satoshi Inoue, Akira Orimo, Michio Sano, Toru Watanabe, Kenichi Tsutsumi, and Masami Muramatsu**	**765**
Loss of Activity of Plasma Platelet-Activating Factor Acetylhydrolase Due to a Novel $Gln^{281} \rightarrow$ Arg Mutation	**Yoshiji Yamada and Mitsuhiro Yokota**	**772**

Molecular Characterization of the Promoter Region of a Neuroendocrine Tumor Marker, IA-1	**Qing Li, Abner L. Notkins, and Michael S. Lan**	**776**
Novel SnoRNAs from *Naja naja atra* (Taiwan Cobra) and *Bungarus multicinctus* (Taiwan Banded Krait) Form Extended Sequence Complementarity to 5S rRNA	**Long-sen Chang and Enjong Hong**	**782**
Isolation of a Genetic Locus Associated with Metronidazole Resistance in *Helicobacter pylori*	**Kai-Chih Chang, Shen-Wu Ho, Jyh-Chin Yang, and Jin-Town Wang**	**785**
Cloning of Rat Muc5AC Mucin Gene: Comparison of Its Structure and Tissue Distribution to That of Human and Mouse Homologues	**Tsutomu Inatomi, Ann S. Tisdale, Qian Zhan, Sandra Spurr-Michaud, and Ilene K. Gipson**	**789**
Effects of Nucleotides on the Denaturation of F Actin: A Differential Scanning Calorimetry and FTIR Spectroscopy Study	**Hélène Bombardier, Patrick Wong, and Claude Gicquaud**	**798**
Increased Transcript Level of RBM3, a Member of the Glycine-Rich RNA-Binding Protein Family, in Human Cells in Response to Cold Stress	**Shozo Danno, Hiroyuki Nishiyama, Hiroaki Higashitsuji, Hiromichi Yokoi, Jing-Hui Xue, Katsuhiko Itoh, Tadashi Matsuda, and Jun Fujita**	**804**
Evidence That the Transit of Glucose into Liver Microsomes Is Not Required for Functional Glucose-6-phosphatase	**Borhane Annabi and Gérald van de Werve**	**808**
Leukaemia Inhibitory Factor Induces Mitogenesis in Swiss 3T3 Cells and Selective Enhancement via a Variety of Signalling Events	**Carolina Schere Levy, Moira Sauane, Philip S. Rudland, and Luis Jimenez de Asua**	**814**
Interference with c-myc Expression and RB Phosphorylation during TNF-Mediated Growth Arrest in Human Endothelial Cells	**Rebeca López-Marure, Adriana Estrada Bernal, and Alejandro Zentella**	**819**
Preferential Overexpression of a Class MU Glutathione *S*-Transferase Subunit in Mouse Liver by Myristicin	**Hassan Ahmad, Maria T. Tijerina, and Amy S. Tobola**	**825**
The TNF-β Gene Nco I Polymorphism Is Not Associated with Hypertriglyceridemia or Insulin Resistance in Lean and Obese Subjects	**J. M. Fernandez-Real, C. Gutierrez, W. Ricant, and R. Casamitjana**	**829**

ERRATUM

Volume 223, Number 2 (1996): Takaki Hayakawa, Takashi Shiraki, Tomoko Morimoto, Kozui Shii, and Hitoshi Ikeda, "Pioglitazone Improves Insulin Signaling Defects in Skeletal Muscle from Wistar Fatty (*fa*/*fa*) Rats," pp. 439–444 **833**

ANNOUNCEMENT **834**

Author Index for Volume 236 **835**

NOTICE

The Subject Index for Volume 236 will appear as part of a cumulative index for the year 1997.